

INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB2005/000611

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 G01S17/58 G01S17/88 F41J5/056 F41J5/14 A63B69/36

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G01S F41J F41G A63B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 179 720 B1 (RANKIN DAVID BENJAMIN ET AL) 30 January 2001 (2001-01-30)	1, 2, 6-8, 10-17, 21-23, 25-30
A	abstract column 4, line 17 - column 8, line 67; figures 1-4	3-5, 18-20
X	EP 0 529 489 A (LOEWE, GUENTER) 3 March 1993 (1993-03-03)	1, 2, 16, 17
A	abstract page 4, column 5, line 8 - page 6, column 9, line 20; figures 1-5	6, 10, 12, 13, 21, 25, 27, 28

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

B document member of the same patent family

Date of the actual completion of the international search

24 June 2005

Date of mailing of the international search report

11/08/2005

Name and mailing address of the ISA

European Patent Office, P B 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel (+31-70) 340-2040, Tx 31 651 epo nl,
Fax (+31-70) 340-3016

Authorized officer

Blondel, F

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 056 791 A (POILLON ET AL) 15 October 1991 (1991-10-15)	1-3, 6, 11-13, 16-18, 21, 26-28
A	abstract column 2, line 50 - column 7, line 68; figures 1-5	4, 5, 7, 8, 10, 14, 15, 19, 20, 22, 23, 25, 29, 30
A	US 2002/103035 A1 (LINDSAY NORMAN MATHESON) 1 August 2002 (2002-08-01)	1-5, 10-20, 25-30
	abstract paragraph '0044!' - paragraph '0098!'; figures 1-14	
A	US 5 984 794 A (MIREMADI ET AL) 16 November 1999 (1999-11-16)	1-5, 10-20, 25-30
	abstract column 3, line 19 - column 7, line 56; figures 1-8	
A	FR 2 682 608 A (ROUSSEAU CLAUDE) 23 April 1993 (1993-04-23)	1, 2, 6-8, 10-17, 21-30
	abstract page 5, line 16 - page 9, line 19; figures 1-3	
A	DE 199 11 375 A1 (HIPPE, JOHANN F) 21 September 2000 (2000-09-21)	1-6, 16-21
	abstract column 3, line 35 - column 5, line 25; figures 1-4	
A	PATENT ABSTRACTS OF JAPAN vol. 2002, no. 07, 3 July 2002 (2002-07-03) & JP 2002 071802 A (RICOH MICROELECTRONICS CO LTD), 12 March 2002 (2002-03-12)	1, 2, 11-17, 26-30
	abstract; figure	
A	WO 03/104838 A (WINTRISS ENGINEERING CORPORATION) 18 December 2003 (2003-12-18)	1, 2, 10-17, 25-30
	abstract page 10, line 19 - page 27, line 35; figures 1-18	
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No
A	US 6 500 073 B1 (GOBUSH WILLIAM ET AL) 31 December 2002 (2002-12-31) abstract column 3, line 31 - column 17, line 4; figures 1-22	1-5, 10-20, 25-30
A	US 2003/027655 A1 (LUTZ MITCHELL E ET AL) 6 February 2003 (2003-02-06) abstract column 3, line 58 - column 12, line 54; figures 1-10	1-5, 10-20, 25-30
A	US 5 471 383 A (GOBUSH ET AL) 28 November 1995 (1995-11-28) abstract column 2, line 9 - column 17, line 34; figures 1-9	1-5, 10-20, 25-30
A	GB 2 319 834 A (* SUMITOMO RUBBER INDUSTRIES, LTD; * SUMITOMO RUBBER INDUSTRIES LTD) 3 June 1998 (1998-06-03) abstract page 4, line 33 - page 11, line 19; figures 1-5	1-5, 10-20, 25-30
A	EP 0 599 118 A (ACUSHNET COMPANY) 1 June 1994 (1994-06-01) abstract page 3, line 1 - page 6, line 38; figures 1-8	1-5, 10-20, 25-30
A	EP 0 554 978 A (ACUSHNET COMPANY) 11 August 1993 (1993-08-11) abstract page 2, line 29 - page 5, line 10; figures 1-4	1-5, 10-20, 25-30
A	FR 2 664 503 A (PAULET BRUNO; QUERU GILLES; SAINT SALVI GILLES) 17 January 1992 (1992-01-17) cited in the application abstract page 5, line 15 - page 15, line 15; figures 1-5	1,2,6-8, 11-17, 21-23, 26-30
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No
A	US 6 607 123 B1 (JOLLIFEE STEVEN PAUL ET AL) 19 August 2003 (2003-08-19) cited in the application abstract column 2, line 55 - column 4, line 64; figures 1-7	1,9,16, 24
A	EP 0 625 716 A (ACUSHNET COMPANY) 23 November 1994 (1994-11-23) abstract page 2, line 32 - page 9, line 4; figures 1-6	1-5, 10-20, 25-30
A	WO 91/01778 A (OESTERREICHISCHES FORSCHUNGSZENTRUM SEIBERSDORF GES; SCHMESKAL, THEODO) 21 February 1991 (1991-02-21) abstract page 3, line 5 - page 7, line 19; figures 1-4	1,2, 10-17, 25-30

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Box II Observations where certain claims were found unsearchable (Continuation of Item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☒ Claims Nos.: 31, 32
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

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FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box II.2

Claims Nos.:- 31, 32

According to Rule 6.2 (a) PCT, claims should not contain references to the description and its related drawings except where absolutely necessary, which is clearly not the case here.

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.

INTERNATIONAL SEARCH REPORT

Information on patent family members

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